DOCKET NO. 138 - An application of SNET Cellular, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of cellular facilities in the Towns of Plymouth, Harwinton, Winchester, and New Milford, Connecticut.

Connecticut

Siting

Council

November 26, 1990

FINDINGS OF FACT

1. SNET Cellular, Inc. (SNET), in accordance with the provisions of Sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on May 23, 1990, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of four telecommunications towers and associated equipment to provide domestic public cellular radio communication service (cellular service) in the Towns of Harwinton, New Milford, Plymouth, and Winchester, Connecticut, within the Litchfield County Rural Service Area (RSA). (Record)

2. The Applicant submitted proof of service as required by CGS Section 16-501. (SNET 1, Section 1; SNET 3)

3. Public notice of the application, as required by CGS Section 16-501 was published in the following:
   The New Milford Times, on May 17 and 24, 1990;
   The Bristol Press, on May 21 and 22, 1990;
   The Register-Citizen, on May 21 and 22, 1990; and
   The Danbury News Times, on May 21 and 22, 1990.
   (SNET 1, Section 1, pp. 5-8)

4. Corrections to the service list and supplemental legal notices were submitted by SNET on June 13, 1990. Corrected public notices were published in the Danbury News Times on June 1, June 13, and June 14, 1990, and in the New Milford Times on June 7, and 14, 1990. (SNET 3)

5. After giving due notice thereof, the Council and its staff made an inspection of the proposed and alternate Harwinton, Plymouth, and Winchester sites, and the proposed New Milford site on August 27, 1990. (Record)

6. Pursuant to CGS Section 16-50m, the Council, after giving due notice thereof, held a public hearing for the proposed application on August 27, 1990, beginning at 3:30 P.M. and reconvening at 7:00 P.M. in the Community Room, Plymouth Town Hall, 19 East Main Street, Terryville, Connecticut. (Record)

7. The parties and intervenors to the proceeding are the applicant and the persons and organizations whose names are listed in the Decision and Order, which accompany these Findings of Fact. (Record)

8. The Department of Environmental Protection (DEP) filed written comments with the Council pursuant to CGS Section 16-50j in a letter dated June 12, 1990. (Record)

9. In 1981, the Federal Communications Commission (FCC) recognized a national need for technical improvement, wide area coverage, high quality service, and competitive pricing in mobile telephone service. (SNET 1, Section III, p. 1)

10. The FCC has promulgated regulations for cellular service in the following areas: technical standards to assure technical integrity of systems for nationwide compatibility, market structure, and state certification prior to federal application for a construction permit. (SNET 1, pp. 2, 3; SNET 1, Section III, pp. 3, 4)

11. The FCC has pre-empted State regulation in determining that a public need currently exists for cellular service, setting technical standards for that service, and establishing a competitive market. Applicants for FCC cellular system authorizations are not required to demonstrate a public need for the service. (SNET 1, pp. 3, 4; SNET 1, Section III, pp. 3, 4)

12. The FCC has determined that the public interest requires two licenses for cellular service be made available in each market area or RSA to provide competition. One license is awarded to a wireline company, the other to a non-wireline company. (SNET 1, pp. 2, 3)

13. The FCC allocated 832 channels from a frequency spectrum of the 870-890 MHz band. Half of the channels were awarded to a "wireline" carrier and the other half to a "non-wireline" carrier. (SNET 1, pp. 2, 3)

14. An application by SNET proposing construction and operation of four cellular facilities in the Litchfield County RSA was submitted to the Council on September 25, 1989. On November 22, 1989, the Council ruled to dismiss this application without prejudice until such time SNET receives the necessary Federal Communications Commission (FCC) licenses to construct and operate cellular facilities in the Litchfield County RSA. (Docket 119 Record)

15. On April 25, 1990, the FCC authorized SNET to be the wireline service provider in the Litchfield County RSA by granting SNET a license to construct and operate the

four proposed facilities. (SNET 1, pp. 4, 5; SNET 1, Exhibit III, pp. 2, 3; SNET 4, Q-6)

16. Pikeville Cellular Partnership (Pikeville) was admitted to this proceeding as an intervenor. Pikeville was granted the non-wireline service license to construct and operate a cellular facility in the Litchfield County RSA on April 13, 1990, by the FCC. (Record; Tr. II. pp. 56, 57)

Cellular Technology

17. Cellular service consists of small, overlapping radio broadcast regions, two to ten miles in diameter, known as cells. The original technical standards of the FCC limited each cell to no more than 100 watts effective radiated power per channel. The RSA cells are presently limited to an output of 500 watts effective power per channel. The proposed cells would accommodate a maximum of 45 cellular channels. Each cell is connected to a central switching station containing electronic apparatus uniting the cells into a system. The system design provides for frequency reuse and call transfer (hand off), orderly expansion, and compatibility with other cellular systems. (SNET 1, Section II, pp. 2-6; Section III, pp. 3, 4; SNET 4, Q-10)

18. Use of digital technology would increase the number of channels that could be derived from the frequencies assigned. (Tr. I, pp. 23, 24)

19. In cellular systems, mobile units are currently limited to a maximum of seven (7) watts transmitting power. Cell coverages must overlap in order for an active mobile unit to continue operating as it travels from one coverage area to another coverage area. This "hand-off" allows calls to continue uninterrupted. (SNET 1, Exhibit II, pp. 2-6)

20. SNET has designed a system that would provide continuous cellular coverage from existing service areas through proposed service areas in the new RSA. Computer modeling was used to predict the best possible coverage within each area through the use of a minimum number of overlapping cell sites. (SNET 1, Section IV, pp. 4, 5)

21. SNET's computer modeling was used to select a geographical search area within each cell containing the elevations needed for potential tower sites. The modeling predicts the minimum tower heights at these selected locations for the optimal coverage needed within each area. (SNET 1, Section IV, p. 5)

22. SNET's system would attempt to cover the area along Route 8 from Waterbury north to the state line with as few tower sites as possible. The proposed sites in Plymouth, Harwinton, and Winchester would help link most of Route 8 from Bridgeport to Winsted. A future unspecified and presently undeveloped site in the Seymour-Beacon Falls area would complete the link. (Tr. I, pp. 24, 25, 29, 30)

23. SNET's system is designed to provide the flexibility to add future facilities between existing cell sites for increased call capacity. Each major cell site would have secondary and tertiary search areas for cell splitting locations. The FCC requires this ability to expand the system. (Tr. I, pp. 26, 27)

24. SNET has no present plans to exceed 100 watts effective radiated power per channel at any of its proposed or alternate sites, given the technology currently in use. Increasing authorized power above 100 watts could cause interference, intermodulation, and frequency reuse problems. (SNET 4, Q-10; Tr. I, p. 22)

25. Initially, SNET would install about 12 channels at each of the proposed cell sites. Expansion to 45 channels would be possible when service demand made it necessary. (Tr. I, pp. 25, 26)

26. The antennas to be used at all sites would initially be 12-foot long by three inches in diameter omnidirectional whip antennas. A minimum of four or a maximum of six antennas would be mounted vertically at the corners of the triangular platform. If necessary, directional antennas would be mounted within the triangle, out of sight, behind a fiberglass cover of the triangular sides. The whip antennas would add twelve feet to the overall height of the tower structure. The total height from ground level to the top of the antennas for a 150-foot tower would be 162 feet or, from a 180-foot tower, 192 feet. (SNET 1, Exhibit V, pp. 4, 7)

27. The supporting structures would be monopole towers either 150 feet or 180 feet high. At the top of each monopole, a triangular-shaped platform would be attached to hold the affixed cellular antennas. The triangular support is approximately ten feet wide and increases the height of the structure by four feet. The monopole would be attached to a reinforced concrete base approximately twenty-feet square and eight feet deep. All structures would be designed to withstand 125 mile per hour winds with two inches of radial ice. (SNET 1, Section V, pp. 3 and 3A)

Facility Construction

28. On each proposed or alternate site, SNET would construct a monopole tower and a single story equipment building approximately 12 feet by 26 feet by 10 feet high. Each site would be accessed by a driveway and would contain sufficient parking space for a technician's vehicle. Eight-foot high chain link security fences would surround the tower and building sites. Security and fire alarm systems would be installed within each building. (SNET 1, Section V, pp. 1, 2; SNET 4, Q-18)

29. The physical structures on each site would not produce any air pollutants. No noise would be emitted except for air conditioning. Any construction noise created during site preparation would be temporary. No permanent emergency generator would be located on any site. (SNET 1, Section VI, pp. 18, 19; SNET 1, Section VIII, pp. 16, 17; SNET 1, Section X, pp. 16, 17; SNET 1, Section XII, pp. 19, 20)

30. None of the seven proposed or alternate sites contain inland wetlands within their boundaries. No access road for any of these sites would cross any inland wetland. (SNET 4, Q-3)

31. SNET has communicated with Pikeville and the Connecticut State Police regarding the shared use of towers in Litchfield County. (Tr. II, p. 52)

32. The Federal Aviation Administration has determined that the towers to be constructed on the proposed or alternate sites would not cause an obstruction to air navigation and that no tower would be required to be marked or lit for air traffic. (SNET 1, p. 5; SNET 1, Section IV, p. 4; SNET 1, Section VI, p. 29; Section VIII, p. 27; Section X, p. 27; Section XII, p. 30; SNET 4, Q-19)

Plymouth: Proposed

33. SNET would construct a 180-foot monopole tower with antennas and an associated equipment building on the proposed Plymouth site off North Street. (SNET 1, Section VI, p. 1)

34. The proposed Plymouth cell site is planned to overlap coverage areas from SNET's existing Waterbury cellular facility and a proposed Harwinton cell site in the Litchfield RSA. (SNET 1, Section VI, pp. 1, 2, 32)

35. Coverage from the proposed site would include sections of Routes 4, 6, 8, 72, 109, 222, and 254, within the Towns of Harwinton, Thomaston, Burlington, Watertown,

Morris, and Litchfield, and the City of Bristol. (SNET 1 Section VI, p. 1)

36. SNET considered seven potential cell site locations, including existing tower sites, rejecting five to provide cellular coverage in the Plymouth-Thomaston area. There are 24 existing tower sites located within a 10-mile radius of the proposed and alternate sites. (SNET 1, Section VI, pp. 3-8)

37. The proposed Plymouth site would be a leased 100-foot by 100-foot section within the interior of a 41.5 acre wooded parcel owned by Francis and Barbara Bart and Raymond and Brenda Lagosz. SNET has negotiated a leasing option agreement with the property owners. The tower site would be situated approximately 500 feet west of North Street and 1000 feet west by northwest of the intersection of North Street and Barry Road, Plymouth. The site is located in an area zoned Residential. (SNET 1, Section VI, pp. 1, 2, 9, 12, 13, 16; SNET 4, Q-18 Attachment)

38. The elevation of the Plymouth proposed site varies from 807 feet to 823 feet above mean sea level (AMSL). The average elevation of the proposed site is about 820 feet (AMSL). (SNET 1, Section VI, pp. 12, 24, 29; SNET 4, Q-18 Attachment)

39. The proposed tower and equipment building would be located totally within the property lines of the land owner. The fall zone of the proposed tower would lie entirely within the lessor's property. (SNET 1, Section VI, pp. 12, 13, 17; SNET 4, Q-18 Attachment)

40. The nearest residence, owned by the lessor, is situated about 200 feet from the proposed site. There are 34 residences located within a 2000-foot radius of the proposed site. (SNET 4, Q-4, Q-18 Attachment)

41. The proposed site would be accessed from an existing 850-foot driveway off North Street and along a new, approximately 265-feet long, gravel roadway constructed by SNET to link the driveway to the proposed site. Utility services would run from the driveway to the leased site. (SNET 1, Section VI, pp. 13, 16; SNET 4, Q. 2-18 attachment)

42. The parcel is undeveloped except for a barn and fenced area used for boarding horses. Trees shield the proposed site along its northern and western borders. Nearby adjacent transmission structures would further minimize the visual impact of the proposed facility. (SNET 1, Section VI, pp. 16, 33)

43. The facility plot is slightly sloped while the tower site is basically level; therefore, grading would be slight and should pose no drainage problems. Water runoff areas would be constructed to minimize erosion. SNET would use erosion control measures including hay spread on loose soil, haybales, crushed stone, erection of temporary sediment basins, and sediment fences to mitigate the effects of sedimentation. Some trees and brush would be cleared from the edge of the site. (SNET 1, Section VI, p. 18; SNET 4, Q-18 Attachment, Q-25)

44. After construction, water quality on or surrounding the proposed site would remain unchanged. No water services would be installed in the equipment building. (SNET 1, Section VI, p. 18)

45. The principal aesthetic impact would be visibility of the towers. SNET would paint the tower a mixed blue-grey color to blend against the background of the sky. (SNET 1, Section VI, p. 20)

46. The Natural Resources Center of the DEP has determined that there are no known extant populations of federally endangered and threatened species or Connecticut "species of special concern" occurring at the site. (SNET 1, Section VI, p. 21)

47. The Connecticut Historical Commission and the Office of State Parks and Recreation have determined that the proposed and alternate cell sites do not represent any historical, cultural, or recreational significance to Connecticut and would not have any effect on any historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (SNET 1, Section VI, p. 23)

48. Based on conservative assumptions with a maximum of 45 channels operating simultaneously at maximum power, the worst case power density level as measured at the base of the tower at a vertical distance of 189 feet, would be 0.082270 mW/cm^2. The power density at the nearest residence, a distance from the antennas of 313 feet, would be 0.02920 mW/cm^2, many times lower than the current Connecticut standard of 2.933 mW/cm^2 for 880 MHz. (SNET 1, Section VI, p. 24)

49. The estimated construction costs to be incurred by SNET are as follows:

Radio equipment	$179,515
Antenna equipment and tower	64,000
Power and associated equipment	171,570
Land and building	256,500
Miscellaneous	77,700
Total	$749,285

(SNET 1, Section Vl, p. 25)

50. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section VI, p. 26)

51. SNET met or communicated with Plymouth and Thomaston town officials in 1989 and 1990 regarding the planning for a Plymouth site. No town officials made any specific recommendations regarding a site location for the facility. (SNET 1, Section VI, pp. 30-31; Tr. II, p. 47)

52. SNET has not been contacted by any Plymouth municipal official regarding the use of a Plymouth tower for municipal agency antennas. (Tr. II, p. 51)

Plymouth: Alternate

53. SNET would construct a 150-foot monopole tower with antennas and a one-story equipment building as an alternate site off North Street. (SNET 1, Section VII, p. 1)

54. The alternate Plymouth site would be a 100-foot by 100-foot plot on a parcel of land owned by Raymond and Brenda Lagosz and Francis and Barbara Bart, located on the west side of North Street approximately 700 feet north of the intersection of North Street and Barry Road. The alternate Plymouth site would be situated approximately 500 feet southeast of the proposed site. SNET has a leasing option agreement with the property owner for use of the site. The site is located in an area zoned Residential. (SNET 1, Section VII, pp. 1, 3-5,8,9,11,15; SNET 4, Q-18 Attachment)

55. The site elevation of the Plymouth alternative site ranges from about 840 feet to 849 feet AMSL. The average site elevation is approximately 848 feet AMSL, about 28 feet higher than the proposed site. (SNET 1, Section VII, p. 1, 3-6, 8, 9, 11, 15; SNET 4, Q-18 Attachment)

56. The alternate site would be accessed from the same gravel driveway as the proposed site. A new gravel extension, approximately 100 feet long, would link the middle section of the existing driveway about 440 feet from North Street, to the site. Utilities would be provided from an existing line along the existing driveway and proposed accessway. (SNET 1, Section VII, p. 8; SNET 4, Q-18 Attachment)

57. The alternate site is level and bordered by a tree line on the eastern and northern sides. Due to a lesser number of shielding trees, the tower could be more

visible to area residences, as it would be located about 500 feet closer to North Street. (SNET, Section VII, p. 8)

58. No cut or fill work of the driveway would be needed, but some minor grading would be required to level the driveway and tower site. Some small trees and bushes would be cleared from the area surrounding the site. (SNET 1, Section VII, p. 8; SNET 4, Q-25)

59. The closest residence is located 275 feet from the alternate site. There are 31 residences within a 2000-foot radius of the alternate site. (SNET 4, Q-4)

60. The fall zone of the alternate tower would include the lessor's property and the properties of Raymond and Brenda Lagosz and Hugh and Dorothy Johnston. (SNET 4, Q-18 Attachment)

61. Based on conservative assumptions, with a maximum of 45 channels operating simultaneously at maximum power, the worst case power density level would be 0.11624 mW/cm^2 as measured at the alternate tower base, 159 feet below the antennas, and 0.03692 mW/cm^2 as measured at the nearest residence about 282 feet from the antennas, well below the current Connecticut standard of 2.933 mW/cm^2 for 880 MHz. (SNET 1, Section VII, p. 9)

62. The estimated construction cost to be incurred by SNET is as follows:

Radio equipment	$179,515
Antenna equipment and tower	57,000
Power and associated equipment	171,570
Land and building	263,000
Miscellaneous	77,700
Total	$748,785

(SNET 1, Section Vll, p. 10)

63. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section VII, p. 11)

Harwinton: Proposed

64. SNET would construct a 180-foot, self-supporting monopole tower with antennas and associated equipment building on the proposed site off Weingart Road. (SNET 1, Section VIII, p. 1)

65. The proposed Harwinton cell site is planned to overlap coverage areas from SNET's proposed Plymouth and Winchester sites. (SNET 1, Section VIII, pp. 1, 2)

66. The coverage from the proposed Harwinton site would include a large section of Route 8 and parts of Routes 4, 72, 118, 183, 202, and 222. The cell would provide service to Harwinton, Litchfield, Burlington, and Goshen. (SNET 1, Section VIII, pp. 1, 29)

67. Reducing the height of the proposed tower from 180 feet to 150 feet would lose coverage of five miles along Route 8, two miles on Route 118, two miles on Route 4, and 1.5 miles on Route 163. (Tr. I, pp. 39, 40)

68. SNET considered nine potential sites, including existing tower sites, rejecting seven to provide coverage in the Harwinton-Torrington area. There are 15 existing tower sites within a 10-mile radius of the proposed and alternate sites. The reasons for rejection included insufficient coverage due to excessive distance outside the search area, site inaccessibility, unavailability of space on an existing building, and lack of interest in leasing land to SNET by a property owner. (SNET 1, Section VIII, pp. 3-4A)

69. The proposed site would be a slightly sloped 100-foot by 100-foot section of a 5.4 acre parcel owned by John J. and Clara D. Basile located approximately 100 feet east of Weingart Road and 1600 feet northeast of Clearview Avenue, Harwinton. The property is bordered on the north by a high voltage electrical transmission line owned by Northeast Utilities. The parcel is located in an area zoned Town Residential (TR). (SNET 1, Section VIII, pp. 2, 8, 11, 12; SNET 4, Q-18 Attachment, SNET 8)

70. The Harwinton proposed site elevation ranges from 1008 feet to 1030 feet AMSL. After grading, the average elevation of the proposed site would be about 1019 feet AMSL. (SNET 1, Section, VIII, p. 22, 27; SNET 4, Q-14)

71. The proposed tower and equipment building would be located totally within the property lines of the land owner. SNET has negotiated a leasing option with the property owners for use of the land for a cellular facility. The fall zone of the tower would lie entirely within the lessor's property. (SNET 1, Section VIII, pp. 1, 12, 15, 17; SNET 4, Q-18 Attachment)

72. The nearest residence, owned by Karen Fowler would be about 285 feet from the proposed site. There are 63 residences located within a 2000-foot radius of the site. (SNET 4, Q-4)

73. SNET could move the proposed Harwinton site north and closer to an electric transmission line ROW since the site owner has no objection to this move. However, SNET states that any northerly movement could result in tower

fall zone intrusion onto property owned by Rocky River Realty, a company owned by Northeast Utilities Company. Rocky River Realty Company informed SNET that no part of its land off Weingart Road would be available to SNET. (SNET 4, Q-13; SNET 7, pp. 1-3)

74. The site is sloped, undeveloped, and wooded, which provides some screening from streets and nearby residences in the area. Some grading, and cut and fill work would be needed for the construction of the tower foundation, building, and bituminous accessway. Trees, boulders, and underbrush would be cleared from the tower site and along the accessway from Weingart Road. (SNET 1, Section VIII, pp. 15, 16, 19; SNET 4, Q-18 Attachment; Q-25; SNET 8; Tr. II, pp. 17-19)

75. The accessway would be a bituminous concrete driveway approximately 300 feet long by 12 feet wide, rising from an elevation of 982 feet at Weingart Road to 1022 feet at the site's security fence. A 25-foot wide utility and access easement covers the entire length of the proposed driveway. SNET would need to break through a stone wall when constructing the driveway to the site. The path through the stone wall would be required due to the grading of the slope in that area. (SNET 4, Q-18 Attachment; SNET 8; Tr. II, pp. 15-17, 20-22)

76. The effects of construction on waterflow would be minimal. Water runoff would be channelized to minimize erosion. SNET would use erosion control measures such as the spreading of hay on loose soil, gravel, haybales, or the construction of temporary sediment basins to mitigate the effects of sedimentation. (SNET 1, Section VIII, pp. 15, 16, 19; SNET 8; Tr. II, pp. 17-19)

77. Water quality on or surrounding the proposed site would remain unchanged as a result of construction. No water services would be installed in the equipment building. (SNET 1, Section VIII, p. 16)

78. The principal aesthetic impact would be the visibility of the tower from some areas including parts of Lake Harwinton. SNET would paint the tower a mixed blue-grey color to blend against the background of the sky. The site is surrounded by tall, mature trees, which would help reduce the visual impact of the tower. (SNET 1, Section VIII, p. 18; Tr. I, p. 39)

79. The Natural Resources Center of the DEP has determined that there are no known extant populations of federally endangered and threatened species or Connecticut "Species of Special Concern" occurring at the proposed site. (SNET 1, Section VIII, p. 19)

80. The Connecticut Historical Commission and the Office of State Parks and Recreation of the DEP have determined that neither the proposed nor alternate site would have any effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic places. (SNET 1, Section VIII, p. 2)

81. Based on conservative assumptions with a maximum number of 45 channels operating simultaneously at maximum power, the worst case power density level as measured at the base of the tower at a vertical distance of 189 feet would be 0.08227 mW/cm^2. The power density level at the nearest residence, a distance from the antenna of 265 feet, would be 0.041968 mW/cm^2, many times lower than the current Connecticut standard of 2.933 mW/cm^2 for 880 MHz. (SNET 1, Section VIII, p. 22)

82. The estimated construction costs to be incurred by SNET are as follows:

Radio equipment	$179,515
Antenna equipment and tower	64,000
Power and associated equipment	171,570
Land and building	260,000
Miscellaneous	77,700
Total	$752,785

(SNET 1, Section VIII, p. 23)

83. If approved, construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section VIII, p. 24)

84. SNET met or communicated with Harwinton Town Officials in 1989 and 1990 regarding the planning for a Harwinton site. No town officials made any specific recommendations regarding a site location for the facility. (SNET 1, Section VIII, p. 28; Tr. II, p. 47)

85. SNET has not been contacted by any Harwinton municipal agencies regarding the use of the Harwinton tower for antenna sharing. (Tr. II, p. 23)

Harwinton: Alternate

86. SNET would erect a 150-foot monopole tower with antennas and associated equipment building as an alternate site off Windmill Road. (SNET 1, Section IX, p. 7)

87. The alternate Harwinton site would be a 100-foot by 100-foot section of a parcel owned by Robert N. and Judith A. D'Amato located east of Windmill Road, approximately 150 feet from the road. The Harwinton

alternate site would be approximately one quarter mile north by northeast of the proposed site. The site is zoned Town Residential (TR). The parcel is presently a vacant building lot in an area of single family residences. A new 120-foot long gravel driveway would access the site from Windmill Road. Utilities would be installed underground from the street. (SNET 1, Section IX, pp. 1, 5, 7; SNET 4, Q-18 Attachment)

88. The elevation of the Harwinton alternate site ranges from 1031 feet to 1071 feet AMSL. The average elevation of the Harwinton alternate site is approximately 1050 feet AGL, 31 feet higher than the proposed site. (SNET 1, Section IX, p. 1; SNET 4, Q-18 Attachment)

89. The propogation coverage of the proposed 180-foot tower and the 150-foot alternate tower would be essentially equal. (SNET 1, Section IX, pp. 1, 13; Tr. I, p. 39; Tr. II, p. 36)

90. The propagation coverage of the Harwinton 180-foot alternate tower, reduced to 150 feet, would result in a three mile loss along Route 8 north and south of Winsted, a 3.5 mile loss along Route 183, and about a three mile loss along Route 44 east and west of Winsted. (Tr. II, pp. 30-33)

91. Because the environmental characteristics of the alternate site are similar in nature to the proposed site, the effects of construction would also be similar. (SNET 1, Section IX, pp. 1, 14)

92. The alternate site is sparsely vegetated with grass, brush, and small trees. The alternate tower would be more visible to surrounding properties than the proposed tower because it is not screened by mature trees. (SNET 1, Section IX, p. 7; SNET 4, Q-18 Attachment)

93. Some cutting would be necessary along a sloped area connecting Breezy Hill Road to the alternate site. Minor grading and leveling would be required at the alternate tower site. No trees or shrubbery would be removed. (SNET 4, Q-25, p. 2)

94. There are 75 residences located within a 2000-foot radius of the alternate site. The closest residence is approximately 160 feet from the site. The fall zone of the tower would include the abutting properties of John and Rose Ponte, and Wayne and Senate Milford. No abuttor's buildings would lie within the fall zone. (SNET 4, Q-4, Q-18 Attachment)

95. The main differences between the proposed and alternate sites would be the greater number of houses near the

alternate site, the lesser visual intrusion of the primary site created by the proximity of the overhead transmission line and mature trees, and less difficult construction at the alternate site. (Tr. II, pp. 19, 20)

96. Based on conservative assumptions, with a maximum of 45 channels operating simultaneously at maximum power, the worst case power density level would be 0.11624 mW/cm^2 as measured at the alternate tower's base, 159 feet below the antennas, and 0.029920 mW/cm^2 as measured at the nearest residence, about 313 feet from the antennas, well below the current Connecticut standard of 2.933 mW/cm^2. (SNET 1, Section IX, p. 8)

97. The estimated construction cost to be incurred by SNET is as follows:

Radio equipment	$179,515
Antenna equipment and tower	57,000
Power and associated equipment	171,570
Land and building	263,000
Miscellaneous	77,700
Total	$748,785

(SNET 1, Section IX, p. 9)

98. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section IX, p. 10)

99. The D'Amatos, owners of the alternate site, submitted testimony indicating approval for the construction of the alternate facility on the D'Amato property from all abutting land owners. (Record; Tr. II, pp. 6, 7)

Rejected Harwington Alternatives

100. SNET investigated the propagation coverage from the highest points on towers located at existing and potential sites in the Torrington-Harwinton area, including a 180-foot tower located on the site of an existing SNET-owned facility off Wildcat Hill Road, Harwinton; an existing 300-foot SNET tower on University Drive, Torrington; an existing 240-foot tower owned by Laurel Cablevision in Torrington; an existing 160-foot guyed tower owned by the Traub Brothers, Inc., at the intersection of Breezy Hill Road and Route 4, Harwinton; and the property of Charlotte Hungerford Hospital in Torrington. (SNET 1, Section VIII, pp. 4, 5; SNET 4, Q-2)

101. SNET rejected the use of an existing SNET facility located off Wildcat Hill Road, Harwinton, that contains

a 100-foot tower. The site would be located outside of the search area and would be too far south to interconnect with the proposed Winchester facility; therefore, an additional facility would be needed between the Wildcat Hill Road site and the proposed Winchester facility. (Tr. II, p. 8)

102. Propagation from an alternate 180-foot tower at the Wildcat Hill Road site would not cover about 1.0 to 1.5 miles along Route 8 near Burrville and would duplicate a large portion of the coverage from the proposed Plymouth site. Coverage in parts of Goshen and Norfolk, that would be covered from the proposed site, would be lost from the Wildcat Hill site. (Tr. II, pp. 9-11)

103. SNET states that economic disadvantages would occur if the existing Wildcat Hill Road tower was disassembled and replaced by an 180-foot tower. It would be less expensive to construct a new tower on the proposed site than to replace the existing SNET tower on Wildcat Hill Road. (Tr. II, pp. 12-14)

104. Propagation from the top of the existing 300-foot SNET tower on University Drive, Torrington, would result in losses in coverage along portions of Route 8 in east Litchfield and the center of Litchfield. Any decrease in antenna height from this tower would increase the loss of coverage. (SNET 4, Q-2, p. 3; Tr. II, pp. 14, 15)

105. SNET investigated a site owned by the Traub Brothers at the intersection of Breezy Hill Road and Route 4 which contained an existing tower. The site's elevation is less than 950 feet AMSL and would require a tower exceeding 250 feet that would provide coverage equal to the proposed 180-foot tower site. (SNET 1, Section VIII, p. 4; Tr. I, pp. 41, 42)

106. SNET did not investigate the possibility of using an existing 260-foot high new tower, owned by Hugo Gerbi, located north of Highland Avenue, Torrington. SNET maintains the site lies outside the search areas for the proposed Harwinton and Winchester sites. Propagation studies indicate adequate coverage from the Highland Avenue location would require a tower exceeding 300 feet tall in order to reach parts of downtown Torrington and sections of Route 8. (SNET 5, Q-28)

107. A facility on the roof of Charlotte Hungerford Hospital in Torrington would be outside the search area, would not provide adequate coverage, and would be too constrained for needed space. SNET's discussions with hospital officials centered on using the hospital building's roof and did not explore use of the grounds. The hospital officials did not want to make space

available on the roof for the necessary 20-foot by 28-foot equipment shelter. (Tr. I, pp. 43, 44; SNET 4, Q-20)

109. Propagations from a theoretical 225-foot tower on the property of Charlotte Hungerford Hospital, 540 Litchfield Street, Torrington indicated various areas of inadequate coverage when compared to the proposed site's propagation, ranging from one to five miles in length, along Routes 4, 6, 63, 202, 219, and 254. (SNET 6, pp. 1, 2)

110. Propagation from the top of an existing 300-foot tower located on the University of Connecticut-Torrington Branch Campus would leave various sections along Routes 4, 8, and 202 uncovered. Interposing terrain features would leave shadowing effects on other sections of Routes 4, 8, and 202 west and south of Torrington, Route 4 for four miles in Harwinton, and along two miles of Route 202 between Torrington and Bakersfield. Various coverage deficiencies would also be encountered along Route 202 between Litchfield and Newberry Corner. (SNET 10, SNET 13)

Winchester: Proposed

111. SNET would construct a 150-foot, self-supporting monopole tower with antennas and associated equipment building on the proposed Winchester site off Oakdale Avenue. (SNET 1, Section X, p. 1)

112. The proposed Winchester site is planned to overlap the coverage area of SNET's proposed Harwinton facility. (SNET 1, Section X, pp. 1, 2)

113. The coverage from the proposed site would include a large section of Route 8, and parts of Routes 4, 20, 44, 72, 118, 181, 183, and 202 in portions of Torrington, Winchester, Barkhamsted, and New Hartford. (SNET 1, Section X, p. 1; Tr. pp. 29, 30)

114. The proposed Winchester site's coverage would eventually be linked to a future site to provide continous coverage east along Route 44 to SNET's existing Canton, Hartford, and East Hartford cell sites. (Tr 1, pp. 29, 30)

115. SNET considered seven potential cell site locations, including existing tower sites, rejecting five sites to provide cellular coverage in the Torrington-Winchester area. There are 13 existing tower sites within a 10-mile radius of the proposed and alternate sites. Reasons for rejection included insufficient coverage due to interposing terrain features, location within a State

forest, excessive distance outside the search area to provide adequate coverage, and too low an elevation. (SNET 1, Section X, pp. 3-6)

116. The proposed Winchester site would be a leased 100-foot by 100-foot section situated entirely within the interior of a 106 acre parcel owned by William and Richard Stow. SNET has negotiated a leasing option agreement with the property owners for use of the proposed site. The site would be located approximately 470 feet northeast of the northern end of Oakdale Avenue, Winsted. The parcel lies within an area zoned Residential (RU). The fall zone of the proposed tower would lie entirely within the lessor's property. (SNET 1, Section X, pp. 2,4,7,10,11,14,15,17; SNET 4, Q-18 Attachment)

117. The nearest residence is situated about 480 feet from the proposed site. There are 92 residences located within a 2000-foot radius of the proposed site. (SNET 1, Section X, pp. 10, 11; SNET 4, Q-4, Q-18 Attachment)

118. The elevation of the proposed Winchester site ranges from 1126 feet to 1129 feet AMSL. After grading, the average elevation of the proposed site would be 1128 feet AMSL. (SNET 1, Section X, pp. 10,22,24; SNET 4, Q-18 attached)

119. The proposed site lies within a heavily wooded, undeveloped, mostly level area on a hilltop. Mature stands of trees surround the site and partially shield it from view from surrounding neighborhoods. The site would be accessed from a new 460-foot long by 12-foot wide bituminous concrete driveway built from the cul-de-sac at Oakdale Avenue. The accessway would cross at a right angle a cleared swath about 35 feet wide, within a right-of-way (ROW) containing a buried Tennessee Gas Company transmission line. An easement would be required for the gas line crossing. (SNET 1, Section X, p. 14; SNET 4, Q-18 Attachment; SNET 9; Tr. II, pp. 41, 42, 45)

120. Since the tower location is basically level, grading, and cutting and filling would be minimal and drainage from the site would be controlled by SNET. However, due to the presence of some ledge rock at the proposed site, SNET may be required to do some blasting for fine leveling of the tower site. (SNET 1, Section X, p. 14; Tr. II, p. 43)

121. Approximately 400 feet of tree and brush clearing and some cutting and filling would be needed to construct the accessway from Oakdale Avenue. SNET would design the accessway to the Winchester site with an angled turn in the drive that would prevent direct on-line

visibility of the tower site from Oakdale Avenue. (SNET 4, Q-25, p. 2; Tr. II, pp. 41, 42)

122. Utilities would be brought to the site underground from Oakdale Avenue along the driveway. An 18-inch minimum clearance between the utility line and the gas transmission pipe would be maintained. (Tr. II, p. 44)

123. Because the elevation of the proposed path of the driveway would climb from 1049 feet at Oakwood Avenue to about 1127 feet at the proposed site, there would be potential for changing water runoff flow created by construction disruption of the ground surface. SNET would use erosion control techniques, such as spreading hay on loose soil, haybales, and the construction of temporary sediment basins to mitigate the effects of construction on the ground surface. (SNET 1, Section X, pp. 15, 16)

124. After construction, water quality on or surrounding the proposed site would remain unchanged. No water services would be installed in the equipment building. (SNET 1, Sections X, p. 16)

125. The principal aesthetic impact would be the visibility of the tower. Since mature trees and brush would be cleared for the driveway and site constructions, SNET would keep such clearing as minimal as necessary in order to maintain vegetative screening. SNET would decrease the tower's appearance by painting it a mixed blue-grey color to blend against the background of the sky. (SNET 1, Section X, pp. 18, 20)

126. Both the Winchester proposed and alternate site towers would be visible from the center of Winsted. (Tr. II, p. 33)

127. The property owner of the proposed and alternate sites selected where the towers could be placed, which does not allow SNET much flexibility for moving the tower site. (Tr. II, pp. 39, 40)

128. The Natural Resources Center of the DEP has determined that there are no known extent populations of federally endangered and threatened species or Connecticut "species of special concern" occurring on the site. (SNET 1, Section X, p. 19)

129. The Connecticut Historical Commission and the Office of State Parks and Recreation have determined that the proposed and alternate cell sites would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (SNET 1, Section X, p. 21)

130. SNET has discussed and received assurances from the Tennessee Gas Transmission Company for a crossing of the existing gas transmission line's ROW to access either the proposed or alternate sites. (SNET 4, Q-5)

131. SNET discussed an alternate accessway from Town Farm Road to the proposed and alternate sites with the property owners. This option was rejected because such an accessway would be longer than the one constructed from Oakdale Avenue, would need to traverse more steeply sloped ground which would make water runoff and erosion difficult to control, and the property owners preferred the planned accessway from Oakdale Avenue. (SNET 4, Q-13; Tr. 2, pp. 40, 41)

132. Based on conservative assumptions with a maximum number of 45 channels operating simultaneously at maximum power, the worst case power density level, as measured at the base of the tower at a vertical distance of 159 feet, would be 0.11624 mW/cm^2. The power density level at the nearest residence, a distance from the antennas of 649 feet, would be 0.006980 $m/W/cm^2$, many times lower than the current Connecticut standard of 2.933 mW/cm^2 for 880 MHz. (SNET 1, Exhibit X, p. 22)

133. The estimated construction costs of the proposed Winchester facility to be incurred by SNET are as follows:

Radio equipment		$179,515
Antenna equipment and tower		$ 64,000
Power and associated equipment		$171,570
Land and building		$278,000
Miscellaneous		$ 77,700
	Total	$770,785

(SNET 1, Section X, p. 23)

134. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section X, p. 24)

135. SNET discussed and communicated with Winchester town officials in 1989 and 1990, the planning for the location of a Winchester cellular tower site. No official made any specific recommendation regarding a site location. (SNET 1, Section X, pp. 28, 29; Tr. II, pp. 47, 48)

136. SNET has not been contacted by any Winchester municipal agencies regarding the use of the Winchester tower for antenna sharing. (Tr. II, p. 46)

Winchester: Alternate

137. SNET would erect a 180-foot monopole tower with antennas and an associated equipment building as an alternate site off Oakdale Avenue. (SNET 1, Section XI, p. 1)

138. The alternate Winchester site would be located on the same property as the proposed site, about 150 feet northeast of the northern end of Oakdale Avenue and approximately 250 feet south of the proposed site. SNET has a leasing option agreement with the property owners to use the site. The alternate Winchester site would be located in an area zoned Residential. The fall zone of the tower would include the property owner's parcel and abutting land owned by Paul and Linda Vaccari. (SNET 1, Section XI, pp. 1, 4, 9, 14, 15; SNET 4, Q-18 Attachment)

139. The elevation of the Winchester alternate site ranges from 1069 feet to 1088 feet AMSL. The average site elevation is 1078 feet AMSL, about 50 feet lower than the proposed site. (SNET 1, Section XI, pp. 4, 9; SNET 4, Q-18 Attachment)

140. A 180-foot tower would be used to compensate for the change in elevation between the proposed and alternate sites to provide similar coverage to Routes 4, 8, 72, 118, 183, 202, and 222, and to Winsted, Torrington, New Hartford, and Barkhamsted. (Tr. II, pp. 33, 34)

141. The Winchester alternate site would be accessed from Oakdale Avenue along the same proposed route of the new paved driveway crossing the Tennessee Gas Company's transmission line. This accessway would be subject to the same easement acquisition as the proposed site. Utilities would be accessed from Oakdale Avenue in the same manner as the proposed site. (SNET 1, Exhibit XI, pp. 8)

142. The Winchester alternate site would be subject to similar construction constraints as the proposed site except that less clearing of trees and brush would be required. The alternate site is less wooded and the driveway shorter than the proposed site. About 125 feet of tree and brush clearing would be required along the driveway. Since the alternate site would be more open and closer to Oakdale Avenue, the facility would be more visible to nearby residents. (SNET I, Exhibit XI, pp. 14, 15; SNET 4, Q-25, p. 2; Tr. II, p. 41)

143. There are 95 residences within a 2000-foot radius of the Winchester alternate site. The nearest residence is located 335 feet from the site. (SNET 4, Q-4)

144. Based on conservative assumptions, with a maximum of 45 channels operating simultaneously at maximum power, the worst case power density would be 0.08227 mW/cm^2 as measured at the alternate tower's base, 189 feet below the antennas. The power density at the nearest residence, about 339 feet from the antennas, would be 0.02839 mW/cm^2, well below the current Connecticut standard of 2.933 mW/cm^2 for 880 MH_Z. (SNET 1, Section XI, p. 9)

145. The estimated construction cost of the Winchester alternate facility to be incurred by SNET is a follows:

Radio equipment	$179,515
Antenna equipment and tower	$ 64,000
Power and associated equipment	$171,570
Land and building	$266,000
Miscellaneous	$ 77,700
Total	$758,785

(SNET 1, Section XI, p. 10)

146. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section XI, p. 11)

Rejected Winchester Alternatives

147. A 130-foot tower at the proposed site would have a similar elevation as the 180-foot tower of the alternate site and would provide essentially the same coverage, but both would provide less coverage than the proposed 150-foot tower. (SNET 12, pp. 33-39)

148. The construction of a 130-foot tower on the proposed site would create areas of inadequate coverage along 1.5 miles of Route 8 south of Winchester, 0.75 miles along Route 183 in Burrville, 1.0 miles along Route 183 near Algonquin State Forest northwest of Winchester, and 1.0 miles along Route 181 in Hartland. (SNET 12; Tr. II, pp. 33-36)

149. A 150-foot tower at the Winchester alternate site would result in an unacceptable cellular coverage created by interposing terrain elevations, including unacceptable coverage on 1.0 to 1.5 miles along Routes 8, 44, 183, and 263 in Burrville, Mooreville, Pleasant Valley, Algonquin State Forest, Winchester, and areas north of Torrington. (SNET 11)

150. SNET rejected sites near an existing water tank on Wallen Street, because an intervening ridge line of Wallen's Hill would block coverage along Route 8 and

parts of the Torrington Area. (SNET 4, Q-13; Tr. I, p. 20)

151. Use of an existing 259-foot AT&T Long Lines tower in Winchester near Platt Hill State Park was rejected because of gaps in coverage of varying lengths along Route 44 west of Winsted, Route 272 southwest of Winsted from Torrington to South Norwalk, and areas west of Route 8, north of Torrington. (SNET 4, Q-21, pp. 1, 2; Tr. 2, p. 24)

152. An existing 180-foot State Police tower in South Norfolk would provide inadequate cover along a section of Route 44 from Winsted to Norfolk and would provide no coverage of Route 8 and areas east of Route 8 from Torrington to Winsted and along extensive lengths of Route 183 from Burrville to Mooreville. (SNET 4, Q-21, pp. 1, 3)

New Milford

153. SNET would construct a 150-foot, self-supporting monopole tower with antennas and an associated equipment building on the proposed New Milford site off Aspetuck Avenue. (SNET 1, Section XII, p. 1)

154. The proposed New Milford site is planned to partially overlap the coverage areas of SNET's existing cell sites to the south in Newtown and Danbury. (SNET 1, Section XII, pp. 1, 2; Tr. I, pp. 28, 29)

155. The New Milford cell site would be a secondary cell site and a future cell site in Brookfield may be necessary to provide additional overlap with the proposed New Milford site with SNET's existing Newtown site. An interconnection with the Newtown site would provide improved coverage along Route 7. (Tr. I, pp. 26-28)

156. The New Milford site would provide primary coverage to a section of Route 7, and to parts of Routes 6, 109, and 202, within the towns of New Milford, Sherman, Kent, and Washington. (SNET 1, Section XII, pp. 1, 33)

157. SNET considered seven potential cell site locations, including existing tower sites, rejecting six sites, to provide cellular coverage in the Danbury-New Milford area. There are 10 existing towers located within a 10-mile radius of the proposed site. Reasons for rejection included towers too short or structurally inadequate to support cellular equipment, inadequate coverage due to interposing terrain features, location too far outside the search area to provide acceptable coverage, site inaccessibility, and a site too low in elevation. (SNET 1, Section XII, pp. 3-7)

158. The proposed New Milford site would be a leased 100-foot by 100-foot section located within the northern edge of property owned by the Canterbury School, Inc. It would be approximately 1300 feet east of Aspetuck Avenue and 800 feet north of Elkington Farm Road. The site would be approximately 200 feet southeast of an existing 60-foot high New Milford Water Company water tank. The proposed site would be bordered on the south by athletic fields of the Canterbury School. The nearest school building would be situated about 1000 feet from the proposed site. The parcel lies within an area zoned Residential. (SNET 1, Section XII, pp. 2, 4a, 5, 8, 9, 11, 12, 17, 24, 25; SNET 4, Q-7, Q-18 Attachment, Q-19)

159. The elevation of the New Milford proposed site ranges from 466 feet to 476 feet AMSL. The average elevation of the proposed site is 471 feet AMSL. (SNET 1, Section XII, p. 17; SNET 4, Q-18 Attachment)

160. The fall zone of the proposed tower would lie within Canterbury School property and would include part of the New Milford Water Company parcel, but not the existing water tank. (SNET 4, Q-18 Attachment)

161. The nearest residence would be located about 245 feet from the tower site. There are 95 residences within a 2000-foot radius of the proposed site. (SNET 4, Q-4)

162. Access to the proposed site would extend about 800 feet from Elkington Farm Road Extension along the tree line bordering an open field. Some grading and brush, tree, and boulder removal would be needed to prepare a new 12-foot wide gravel driveway. Since the drive slopes upward from about 420 feet elevation to 465 feet elevation, some off-site erosion could be expected during driveway preparation. SNET would use crushed stone, haybales, fabric siltation-protection devices, and temporary sediment basins to mitigate erosion and water runoff created by disruption of the ground surface. Utilities would be installed underground along the new road to the site. (SNET 1, Section XII, pp. 12, 13, 19; SNET 4, Q-18 Attachment; Q-25, p. 2; Tr. II, pp. 22, 23, 46)

163. The proposed tower site is bordered by mature trees on the north along Taylor Terrace and west of the adjacent water tank. The site is level therefore grading would be minimal and should not pose any drainage problems created by construction. SNET would use erosion control devices to control any erosion off-site. Some small trees and brush would be cleared from the site. (SNET 1, Exhibit XII, pp. 17-19, 22)

164. After construction, water quality on or surrounding the proposed wite would remain unchanged. No water services would be installed in the equipment building. (SNET 1, Section XII, p. 19)

165. The principal aesthetic impact would be visibility of the tower. SNET would paint the tower a mixed blue-grey color to blend against the background of the sky. (SNET 1, Exhibit XII, p. 21)

166. Residents of Taylor Terrace who border on the Canterbury School property would have increased visibility of the proposed tower during wintertime when the leaves are off the trees. (Tr. I, p. 36)

167. Moving the proposed tower site south of the existing water tank to provide additional screening would place the water tank within the proposed tower's fall zone and would require approval from the Canterbury School officials. Such a move would place the tower's fall zone across a part of the school's athletic fields. (SNET 4, Q-22; Tr. I, pp. 34, 35)

168. Based on conservative assumptions with a maximum of 45 channels operating simultaneously at maximum power, the worst case power density level, as measured at the base of the tower at a vertical distance of 159 feet, would be 0.11624 mW/cm^2. The power density at the nearest residence, a distance from the antenna of 524 feet, would be 0.02549 mW/cm^2, lower than the current Connecticut standard of 2.933 mW/cm^2 for 880 MHz. (SNET 1, Section XII, p. 25)

169. The estimated construction costs to be incurred by SNET are as follows:

Radio equipment	$179,515
Antenna equipment and tower	$ 57,000
Power and associated equipment	$171,570
Land and building	$282,000
Miscellaneous	$ 77,700
Total	$767,785

(SNET 1, Section XII, p. 26)

170. If approved, site construction and testing would be completed in December 1990. The facility could be operational before the end of 1990. (SNET 1, Section XII, p. 27)

171. SNET did not submit an alternate site to the proposed New Milford facility. (SNET 4, Q-17)

172. A reduction in height of the proposed 150-foot tower to 60 feet would lose coverage varying from 1.5 miles to

3.5 miles along Routes 7, 37, 39, and 202. Most of the 3.5 mile loss along Route 7 would be south of the New Milford site. The same signal loss would occur with a 100-foot tower at the proposed site. (SNET 4, Q-8; Tr. I, pp. 31-33)

173. SNET has not conducted a detailed analysis of the water tank to determine if the tank would be structurally able to support a cellular tower or antenna brackets. No discussions with the New Milford Water company have been held to consider this option. (Tr. I, p. 34)

174. SNET met or communicated with New Milford town officials in 1989 and 1990 to discuss planning for a New Milford cellular site. No town official made any specific recommendation regarding a site location. (SNET 1, Section XII, pp. 31, 32; Tr. I, p. 21; Tr. 2, pp. 47-48)

175. No New Milford town official has requested space on the proposed tower for municipal agency antennas. SNET is willing to share its tower with municipal agencies. (Tr. I, pp. 36, 37)

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